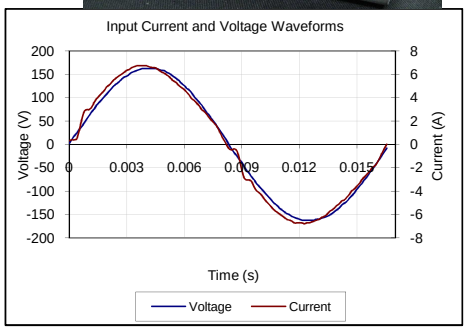
80 PLUS Verification and Testing Report

TYPICAL EFFICIENCY (50% Load):	**85.48%**
AVERAGE EFFICIENCY :	**83.71%**
80 PLUS COMPLIANT:	**YES**

Ecos ID #	1421
Manufacturer	IN WIN DEVELOPMENT INC.
Model Number	IP-S450DQ3-2
Serial Number	N/A
Year	2009
Type	ATX12V
Test Date	4/30/2009

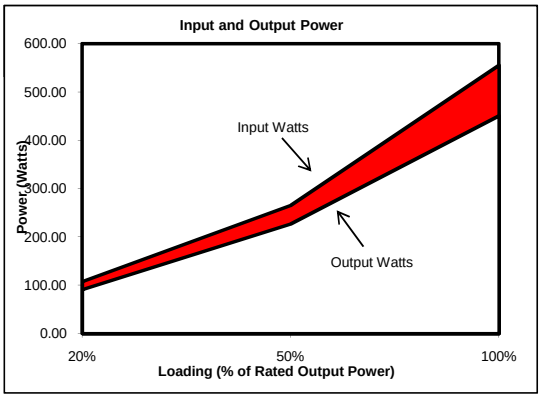
Rated Specifications	Value	Units
Input Voltage	115/230	Volts
Input Current	8/5	Amps
Input Frequency	60/50	Hz
Rated Output Power	**450**	**Watts**

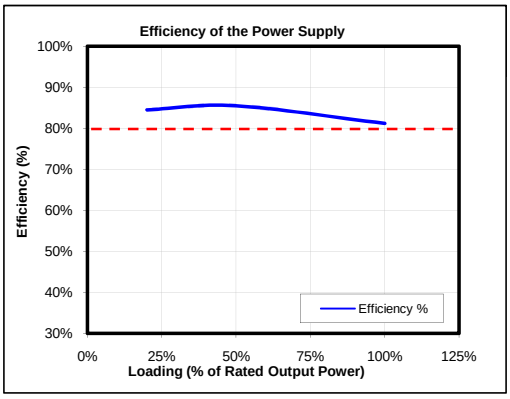
Note: All measurements were taken with input voltage at 115 V nominal and 60 Hz.



Input AC Current Waveform (ITHD = 4.91%, 50% Load)

I_{RMS} A	PF	I_{THD} (%)	Load (%)	Fraction of Load	Input Watts	DC Terminal Voltage (V)/ DC Load Current (A)					Output Watts	Efficiency %
						12V (cumulative of 12V1, 12V2, etc.)	-12V	3.3V	5V*	5VSB		
0.94	0.9899	8.62%	20%	**Light**	107.54	12.1/5.5	12/0	3.3/3.4	5.1/2.1	5/0.5	90.87	**84.50%**
2.32	0.9952	4.91%	50%	**Typical**	265.30	12.1/13.7	12.1/0.1	3.3/8.4	5/5.3	5/1.1	226.77	**85.48%**
4.84	0.9971	5.09%	100%	**Full**	555.50	12/27.3	12.2/0.3	3.3/16.8	5/10.5	4.9/2.3	450.90	**81.17%**





These tests were conducted as a part of the 80 PLUS program. 80 PLUS is a computer buy-down program to promote high-efficiency power supplies (greater than 80% efficiency in the active mode) in desktop computers and desktop-derived servers.

Tested by Electric Power Research Institute, Knoxville, TN.